DOCUMENT RESUME

ED 262 298 CG 018 533

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TITLE A Study of the Awareness of Selected College Students Concerning Sexually Transmitted Diseases.
PUB DATE [Sep 85]
NOTE 15p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adolescents; *College Students; Higher Education; *Knowledge Level; *Sex Differences; *Sex Education; *Student Attitudes; *Venereal Diseases

ABSTRACT

Changes in sexually transmitted disease (STD) rates among adolescents and young adults may depend on changes in sexual activity, accessibility of referral and treatment services, and education. To assess the knowledge and attitudes of college students toward various aspects of STD's, a 45-item Likert inventory focusing on symptoms, prevalence, causes, and personal responsibility related to STD's was administered to 843 college students at two midwestern universities. An analysis of the data revealed that the average respondent was single, sexually active, 20.6 years of age, moderately religious, and had received minimal formalized sexuality education in secondary school. The results of the knowledge section indicated that significant differences existed between males and females, with females reporting more accurate information than males. Knowledge items dealing with pregnancy and syphilis, initial symptoms of STD's, and social class incidence of STD's were items which were most typically missed by male respondents. The results indicated that although the respondents recognized the magnitude of the problems surrounding STD's, they had many misconceptions about the specific symptoms and effects of individual STD's. Religious preference, area of academic study, and sexual activity were not found to be significant response predictors. (Author/NRB)

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ED262298

A Study of The Awareness of Selected College Students Concerning Sexually Transmitted Diseases

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CG 018533

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ABSTRACT

A Study of the Awareness of Selected College Students

Concerning Sexually Transmitted Diseases

The purpose of this study was to assess the knowledge and attitudes of 843 students enrolled at two midwestern universities toward various aspects of sexually transmitted diseases (STD). A 45 item Likert inventory which focused on symptoms, prevalence, causes, and personal responsibility related to STD's was utilized. An analysis of the data revealed that the average respondent was single, sexually active, 20.6 years of age, moderately religious, and who had received minimal formalized secondary sexuality education. The results of the knowledge section indicated that significant differences existed between males and females, with females reporting more accurate information than males. Knowledge items dealing with pregnancy and syphilis, initial symptoms of STD's and social class incidence of STD's were items which were most typically missed by male respondents. The results indicated that generally the respondents recognize the magnitude of the problems surrounding STD's, however, they have many misconceptions about the specific symptoms and effects of individual STD's. Further, religious preference, area of academic study, and sexual activity were not found to be significant response predictors.

INTRODUCTION

Half of the young adults in this country will contact either syphilis or gonorrhea before the age of 25.[1,2] A United States Department of Health, Education and Welfare report on health promotion and disease prevention indicated that in 1977, ten million cases of sexually transmitted diseases occurred in this country.[3] Of the reported cases during that time, 86 percent of the individuals infected with STD's were individuals between the ages of 15 through 29.[4,5,6]

The depth of the problem lies in the diversity of its constituent issues; morality, sexuality, socialization patterns, informed decision-making and the pressure placed on the adolescent by peers to integrate these issues into behavior. Changes in sexually transmitted disease rates among adolescents and young adults may depend upon several factors: increased sexual activity, assessibility of referral and treatment services, or a void in education. The Alan Guttmacher Institute revealed that only 43 percent of surveyed adolescents indicated that they had recieved any form of sex education in school.[7] The potential lack of information on symptoms, causes, and available treatment for sexually transmitted diseases has often hindered an adolescent who wished to make responsible decisions with respect to sexual activity. A review of the literature indicates the magnitude of the problem: The majority of STD's occur in the 15-24 age group; young women lose 900,000 school days each year because of gonococcal infections; the incidence of gonococcal infections is increasing by 15% per year; the prevalence of herpes is approximating that of gonorrhea,[8,9] and the incidence of gonorrhea is rising fastest in the 15-19 age group and especially among females. The identification of these attitudes

and opinions will provide information which treatment and educational programs may utilize to address the physiological and psychological problems associated with the incidence of STD's.

PURPOSE

The purpose of this study was to assess knowledge and attitudes toward sexually transmitted diseases. In light of the significant public health education campaigns directed toward this subject, this research sought to assess the responses of individuals within the most sexually active age strata to determine if prominent areas of misinformation exist. Additionally, county wide incidence rates for selected STD's were above national norms in the counties in which the universities were located, indicating a need to survey those most affected by the diseases.

Sample

The purposive sample consisted of 843 college-aged individuals, 388 males and 455 females, between the ages 17 and 52 years. All sample members were students in elective health courses at two midwestern universities at the undergraduate or graduate level. The sample was deemed appropriate because of the students' access to factual health information and because of the high incidence of STD's in the geographic locality.

Instrumentation

Data collection was achieved through the use of "A Sexually Transmitted Disease Attitude Opinion Inventory," a modified Likert instrument consisting of 45 items. The instrument focused on symptoms, prevalence, causes and personal responsibility with respect to STDs, the subject's self-precieved religiosity and sexual activity, and completion of a high school sex education class. The instrument was developed and validated by the Texas Department of Public Health with test-retest reliability found to be .80. Two individuals

admisistered the instruments to enhance consistency of administration.

RESULTS

Respondents in this study were evenly distributed between the four undergraduate class levels (22.1 percent to 24.7 percent) and had a mean age of 20.6 years. The most frequently mentioned religious affiliations were Catholic (40.1 percent) and Protestant (29.7 percent) with over half (54.2 percent) of the respondents indicating self-perceived religiosity. Concerning marital status, 93 percent were single and 92.1 percent were enrolled in baccalaureate programs. Frequently cited areas of study were health-related professions (24.0 percent), education (20.4 percent), business (18.5 percent), and liberal arts (17.6 percent). The majority of respondents (74.3 percent) had taken a sex education course in high school. When asked about self-perceived sexual activity, 67.8 percent rated themselves as moderately active to very active.

From an overview of the 45 data items, it appears that the respondents answered similarly on all test items. It may be noted further that the questions with highest response concensus among respondents dealt with social alienation as a result of contracting an STD, social class incidence of STD's age group, incidence of STD's, self-perception after contacting an STD, protection of sexual partners, and the need for STD prevention education. The overall mean agreement percentage of 93.67 reflected a high and consistent opinion of the respondents concerning the appropriate item response.

The ten items with the lowest stated similar responses were knowledge questions concerning issues of social class incidence of STD's, psychological and physiological consequences of genital herpes, links between promiscuity and genital herpes, personal hygiene and disease specific questions. These questions may have been too specific in nature to generate a correct response

or the respondents may not possess disease-specific information which would allow them to illicit the appropriate response. The mean percentage of agreement of 37.50 indicated low factual knowledge of the test items.

In an attempt to better understand response variance among the study participants, Chi-Square, Analysis of Variance, and Multiple Discriminant Analysis were used to test for differences on the following demographic variables: sex, religious preference, area of academic study, participation in a high school sex education class, and self-perceived sexual activity. The questions with the greatest number of significant response differences were:

1. STD organisms are present in many people and break out when they do something bad. (significant differences on sex, religious preference, sex education class, and area of academic study)

2. When the symptoms of STD disappear, it does not mean that the disease is cured. (significant differences on sex, religious preference and sex education class)

3. Mothers with syphilis can pass it along to their newborn infants. (significant differences on sex, area of study and sex education class)

4. STD's are hereditary. (significant differences on sex, religious preference and area of study)

5. If one finds that he/she has an STD, he/she should try to protect others to whom he/she may have passed it by not telling who the other partner is. (significant differences on religious preference, area of study and self-perceived sexual activity)

6. Ignorance about STDs increases the probability of their spread. (significant differences on sex, religious preference and area of study)

A review of all questions indicated that 16 questions differed significantly on sex with females providing the greatest number of factual responses in all cases. Protestant and Catholics tended to respond similarly on the 19 questions in which significant differences were found with regard to religious preference. Those who had a sex education class in high school

provided more accurate information than those who did not have the course. No discernable response differences were identified based upon sexual activity or area of study. The respective differences are identified in Table 1.

Insert Table 1

Multiple discriminant analysis was used to further study differences in response by religious affiliation, areas of study, and sexual activity. The data for "religious affiliation" before the computation of the first discriminant function indicated that considerable discriminating power existed (Λ=.7104) but the corresponding $\chi 2$ was non significant. Further evidence about group differences, derived from group centroids, indicated that considerable response overlap occurred among groups. The effect of the overlap was a classification routine that was able to correctly identify only 36.5% of the cases as members of the groups to which they actually belonged. It appears that religious affiliation was of little discriminating value because the high lambda, non-significant $\chi 2$, similar group centroids, and similar standardized discriminant function coefficents.

The date concerning "area of study" was similar with the exception that the first discriminating function was significant. Before any functions were removed, lambda was .6663. After some of this discriminating power had been removed by placing it into the first discriminate function, lambda increased (.7766), but the $\chi 2$ indicated that a statistically significant amount of discriminating power still existed, thus indicating two functions. Although two discriminant functions were derived, considerable overlap existed within this group also, resulting in a correct classification scheme only 29.3 percent of the time. The contribution of the functions was to represent those with a social work major in the first function and those in liberal arts

and academic non-preference in the second function. Those in health related programs were not significant in either function.

The data for sexual activity resembled that of religious affiliation in that considerable discriminating power existed (Λ=.6867) but the corresponding $\chi 2$ was non-significant. Response overlap was evidenced via the classification routine which correctly identified only 29.4 percent of the cases. Thus, sexual activity was a little discriminating value in assessing case responses.

CONCLUSION

The data indicated that, in general, students recognize the problem of sexually transmitted diseases, but there appears to be some misinformation present concerning perceptions of the diseases and their symptoms and effects. Further, this research infers that the respondents are aware of the general category of sexually transmitted disease but lack specific information concerning specific deseases. This research supports the literature's contention that females are more knowledgeable than males on issues of sexuality. Additionally, it appears that females possess "healthier" attitudes/opinions concerning sexual communication, stereotyping, and social stigmas associated with sexually transmitted disease. Further, religious affiliation, area of study and sexual activity were not significant response predictors.

STD education is an important aspect of sex education programs.[11,12,13,14] Because of the legal limitations concerning contraceptive provision, parental misinformation, negative social stigma, the unenforcability of sexual behavior laws, and adolescent and young adult misinformation, it is imperative that adolescents and young adults be informed of correct, pertinent information. The value of such a course is evidenced by the significant differences found between those who had completed a high school sex

education course and those who have not.

This study poses an interesting issue. If the students are a representative sample of their age group, and if a somewhat similar set of opinions/attitudes are present in the general populations, what changes must be made in our sex education/sexually transmitted disease education programs in order to curb the near-epidemic prevalence of STDs in this age group? Apparently, nonspecific education campaigns have not been successful.[15] Issue-specific messages should be developed that will enhance disease understanding while treatment programs should be made more appealing and accessible to those who need them.

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Table 1

Categorization of Response Variance by Selected Demographic Varibles

Item	Demographic Variable				
	Sex	Religious Preference	Area of Study	Sex Education Class	Sexual Activity
1. Only poor people get sexually transmitted disease (STD).					X
2. STD organisms are present in many people and break out when they do something bad.	X	X	X	X	
3. Respectable people can get STD's.					
4. If an individual gets a STD, he is being punished.	Y	X			
5. Syphilis and gonorrhea are very dangerous diseases to the individual and to society.		Y			
6. Nice people should never discuss the problems associated with STD's.	X				
7. If a person gets a STD, they deserve to be punished and ignored.	Y				
8. An infected person should always seek treatment and tell who their sexual contacts were.					
9. Laws alone are not effective in preventing and controlling STD's.	X				
10. Sexual contact is the principal way of getting STD's.					
11. There is no relationship between promiscuity and STD's.	Y	Y			
12. Syphilis is often contracted from door knobs, drinking glasses, and toilet seats.	Y			Y	
13. The rise in STD's were brought about as result of changing sexual values.		Y			X

Item	Demographic Variable: Sex	Religious Preference	Area of Study	Sex Education Class	Sexual Activity
14. If one wants to help protect themselves from STD's it is a good idea to wipe off a toilet seat before using the toilet.				Y	
15. The best way to avoid STD's is to make certain that one keeps one's body clean and gets proper diet.					
16. STD's can be found in all groups of people throughout the country.	X	X			
17. Teenagers don't have to worry about the STD's as they are diseases of older people.		X			
18. When the symptoms of STD disappear, it does not mean that the disease is cured.	X	Y		Y	
19. Mothers with syphilis can pass it along to their newborn infants.	X		X	Y	
20. Gonorrhea is a simple kind of syphilis.					X
21. Once a person has been cured of a STD, he cannot become infected again.	X		X		
22. If a person gets a STD, they should view themselves as a failure.		X			
23. STD prevention and control is everybody's business.		Y			
24. Teenagers are largely to blame for the rapid rise of STD's.					
25. STD's can affect many people other than the infected individual.					
26. An informed population is necessary if the STD's are to be conquered.		X	X		
27. One should expect the government to provide care if one contracts an STD.		X			

	Item	Demographic Variable: Sex	Religious Preference	Area of Study	Sex Education Class	Sexual Activity
28.	Effective treatment and cures do not necessarily mean that STD's will be eliminated.	X				
29.	STD's are hereditary.	Y	X	Y		
30.	If one finds they have a STD, they should try to protect others to whom they may have passed it by not telling who they are.		X	Y		Y
31.	People do not have to fear the STD's, because an effective treatment is available.		X			
32.	Ignorance about the STD's increases the probability of their spread.	Y	X	Y		
33.	STD control programs are an investment rather than an expenditure of public funds.		X			
34.	STD represents a breakdown of responsible standards of human behavior.					X
35.	Ideas of sex among groups of people have a lot to do with the STD problem.					
36.	Laws should be passed punishing individuals who spread STD.	X		Y		
37.	Almost everybody has sound knowledge about the STD's.		X			Y
38.	Genital herpes can affect both the facial and genital regions.					
39.	Genital herpes can only be transmitted when the disease is in the active state.	Y				
40.	There is a direct link between promiscuity and the occurrence of genital herpes.					
41.	Genital herpes is a disease of the middle class.					

Item	Demographic Variable				
	Sex	Religious Preference	Area of Study	Sex Education Class	Sexual Activity
42. There are effective cures available to those who suffer from herpes.					
43. There has been no increase in the nuber of poor people contacting STD's in the last 15 years.					
44. Recurrences of genital herpes are usually mild and don't last long.			Y		
45. The physical and psychological consequences of genital herpes are overstated.	Y	X			

LEGEND:

X = p< .01
Y = p< .05